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4. That I believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application in the United States of America or any patent issuing thereon.



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3 TITLE OF THE INVENTION (200 characters or spaces maximum)			
Exothermic cosmetic composition			
4 PRIORITY DECLARATION OR APPLICATION FOR THE BENEFIT OF THE FILING DATE OF A PRIOR FRENCH APPLICATION		Country or organisation Date _____ / _____ / _____ No.	
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7 INVENTOR (S)			
The inventors are the applicants		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No In this case, provide a separate designation of the inventor(s)	
8 SEARCH REPORT			
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Fee paid in instalments		Payment in three instalments, for natural persons only	
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DESIGNATION OF THE INVENTOR(S) Page No ... / ...
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DB 112 W / 24099

Your file references (optional)		OA00165/CR	
NATIONAL REGISTRATION NO.		00/09.062	
TITLE OF THE INVENTION (200 characters or spaces maximum)			
Exothermic cosmetic composition			
THE APPLICANT(S):			
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DESIGNATE(S) AS INVENTOR(S): (Indicate top right "Page 1/1". If there are more than 3 inventors, use an identical form and number each page, indicating the total number of pages.)			
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PATENT

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The present invention relates to an exothermic cosmetic composition comprising a zeolite, a surfactant and an alkaline-earth metal halide, and to the uses of the said composition in particular for 5 cleansing and/or for removing make-up from the skin and/or mucous membranes. The invention also relates to a cosmetic process for cleansing and/or removing make-up from the skin using the said composition.

It is known practice to use exothermic 10 anhydrous cosmetic compositions, that is to say compositions which have a heating effect when applied to the skin. The exothermic nature of these compositions is generally provided by the presence of an exothermic compound such as zeolites and polyols, 15 for instance glycerol or polyethylene glycols. These compositions are particularly suitable for cleansing the skin. Thus, document EP-A-974 340 discloses a polyol-based heating composition whose spreading and rinsing properties are improved by the presence of 20 aluminium oxide.

Zeolites are particularly effective as exothermic compounds. However, in order for the exothermic compositions containing them to have good cleansing properties, it is necessary to add 25 surfactants and in particular foaming surfactants thereto. Thus, document EP-A-897 719 discloses a skin

compound, and in particular a zeolite, combined with an anionic surfactant. However, the addition of surfactants, and in particular of nonionic surfactants, to these compositions leads to instability of the 5 composition, which is reflected by a heterogeneity of the composition. Thus, the zeolites have a tendency to migrate to the bottom, resulting in a decantation in the composition. Such an instability makes the composition unacceptable for use.

10 To improve the stability of these compositions, it has been considered to add thereto thickening polymers such as carbopol. However, the addition of these polymers has the drawback of resulting in sticky and runny gels which, in addition, 15 are not homogeneous.

Thus, there is still a need for a cleansing exothermic cosmetic composition which is stable over time.

The Applicant has found, surprisingly, that 20 the addition of an alkaline-earth metal halide to an exothermic composition containing a zeolite and a surfactant, and in particular a nonionic surfactant, gives a stable cleansing composition.

Thus, the invention relates to an exothermic 25 cosmetic composition comprising, in a physiologically acceptable anhydrous medium, at least one zeolite, at

least one surfactant and at least one alkaline-earth metal halide.

The expression "exothermic composition" means herein a composition such that the user experiences a 5 heating sensation when the composition is applied to the skin. It is a composition whose temperature in the presence of water (water added during its use or the water present in the skin) may instantaneously rise by several degrees (one to twenty degrees). This heating 10 effect allows better opening of the skin's pores and thus better cleansing of the skin.

The composition according to the invention consists of an anhydrous medium. The term "anhydrous" means herein a medium which is virtually anhydrous, 15 that is to say generally comprising less than 6% by weight of water, preferably less than 4% by weight of water and better still less than 1% by weight of water relative to the total weight of the composition. It may also be totally anhydrous.

20 Since the composition of the invention is a cosmetic composition and thus intended for topical application, it comprises a physiologically acceptable medium, that is to say a medium which is compatible with the skin, mucous membranes and/or keratin fibres.

25 The composition of the invention is homogeneous and stable over time. It is generally in the form of a translucent to opaque gel, but it may

also be in the form of a cream, a paste or even a powder if all the constituents used are powdery, the said powder possibly being used in powder form or in a sponge or alternatively impregnated on a wipe.

5 The alkaline-earth metal halide has the advantage not only of giving a stable composition but also of being able to adjust the pH of the composition to a value which is suitable for topical use, since the zeolites give the compositions containing them a high 10 basic pH which is incompatible with topical use on the skin. The pH obtained for the composition according to the invention thus generally ranges from 5 to 9.

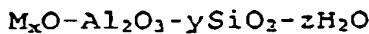
15 The alkaline-earth metal halide may be chosen in particular from calcium, magnesium and zinc iodides, chlorides and bromides, and mixtures thereof. According to one preferred embodiment of the invention, the alkaline-earth metal halide is calcium chloride.

20 The amount of alkaline-earth metal halide(s) may range, for example, from 1% to 15% by weight and preferably from 2% to 10% by weight relative to the total weight of the composition.

25 Zeolites are silicoaluminates. Zeolites which may be mentioned in particular include activated zeolites, and for example zeolites A, zeolites X such as those sold by the companies Fluka and Union Carbide, zeolites MAP such as those disclosed in document EP-A-384 070, and activated zeolites A. The cations

present in the zeolites used comprise in particular Na, K, Ca, Zn, Mg, Li or Cu and combinations thereof. Activated zeolites which may be used in particular are the zeolites A-3, A-4 and A-5 of formula:

5



in which M is an alkali metal or alkaline-earth metal and x, y and z are, independently of each other, any number. These zeolites are in the form of particles preferably having a particle size ranging from 3 to 6
10 microns.

These zeolites and the process for preparing them are disclosed in document EP-A-187 912 incorporated herein for reference. It is especially possible to use those sold under the name Advera 401N
15 and Advera 402N by the company PQ Corporation.

Any other exothermic agent, and thus an agent capable of releasing heat during hydration of the composition, and in particular one or more polyols, may be added to the zeolite or to the zeolites used in the
20 composition of the invention.

Polyols which may be mentioned in particular include polyols containing at least 2 hydroxyl groups and at least 3 carbon atoms, and, for example, glycerol, diglycerol, propylene glycol, dipropylene
25 glycol, butylene glycol, hexylene glycol, polyethylene glycol and polyethylene glycols with a molecular weight of less than 600, for instance PEG-8, and sugars such

as sorbitol, and mixtures thereof. The polyols preferably used are glycerol, butylene glycol, propylene glycol, dipropylene glycol and PEG-8, and mixtures thereof.

5 According to one preferred embodiment of the invention, the composition contains a zeolite or a mixture of zeolites, and preferably a mixture of zeolite(s) and of polyol(s) and more particularly a mixture of activated zeolite and of one or more polyols
10 chosen from butylene glycol, propylene glycol, glycerol, dipropylene glycol and/or PEG-8.

The amount of zeolite(s) or of zeolite(s) with added polyols must be sufficient for the composition to be exothermic and, consequently, for the
15 user to effectively experience a heating sensation when the composition is applied to the skin. In practice, the amount of zeolite(s) generally ranges from 5% to 95% by weight, preferably from 10% to 70% by weight and better still from 20% to 60% by weight relative to the
20 total weight of the composition. The amount of polyol(s) may range, for example, from 20% to 90%, preferably from 30% to 90% by weight and better still from 40% to 90% by weight relative to the total weight of the composition.

25 The composition according to the invention contains at least one surfactant which is generally a cleansing and/or foaming surfactant, and which may be

chosen from nonionic surfactants, anionic surfactants and amphoteric surfactants, and mixtures thereof. The amount of surfactant(s) may range from 0.5% to 20% by weight of active material, preferably from 1% to 15% by 5 weight and better still from 2% to 10% by weight of active material relative to the total weight of the composition. The surfactants may be in the form of powder, paste or liquid. They may also be in aqueous dispersion provided that the amount of water is not too 10 large and does not impair the exothermic qualities of the composition.

The surfactant(s) is(are) advantageously in the form of a paste.

As nonionic surfactants which may be used in 15 the invention, mention may be made, for example, of condensates of alkylene oxides and of alkylphenols such as ethoxylated octylphenol, such as the product sold under the name Triton X45 by the company Rohm & Haas; alkylpolyglucosides; ethers of fatty alcohols and of 20 polyols such as, for example, Polyglyceryl-3 hydroxylauryl ether (CTFA name) sold under the name Chimexane NF by the company Chimex; nonionic derivatives of glucose and of methylglucose, comprising polyethylene oxide or polypropylene oxide groups, these 25 derivatives optionally comprising a C2 to C30 fatty chain, such as oxyethylenated (120 EO) methylglucose dioleate (CTFA name: PEG-120 methylglucose dioleate)

sold under the name Glucamate DOE 120 by the company Amerchol or oxypropylated (20 PO) methylglucose sold under the trade name Glucam E 20 by the company Amerchol; oxyethylenated fatty amides such as PEG-5 5 cocamide, and mixtures of these surfactants.

Anionic surfactants which may be mentioned, for example, include polyalkylene glycol ethers of fatty alcohols; taurates; acyl lactylates such as sodium stearoyl lactylate (for example Pationic SSL 10 sold by the company Maprecos); alkyl sulphates such as sodium lauryl sulphate (Sipon LCS sold by the company Henkel); glyceryl alkyl sulphates such as sodium cocoglyceryl sulphate (sold by the company Nikko under the name Nikkol SGC-80N); polyoxyethylenated alkyl 15 sulphates; alkyl ether sulphates such as monoethanolamine lauryl ether sulphate; alkyl ether carboxylates; monoalkyl or dialkyl phosphates such as arginine monohexyl-2-decyl phosphate (MAP-16G-ARG sold by the company Kao Chemicals); ethoxylated alkyl 20 phosphates; N-acylsarcosinates such as sodium myristoylsarcosinate (for example Nikkol Sarcosinate MN sold by the company Nikko); N-acylglutamates such as sodium lauroylglutamate (for example Amisoft LS11 sold by the company Ajinomoto); acylisethionates such as 25 sodium cocoylisethionate sold in particular by the company Jordan (Jordapon CI); succinamates; soaps such

as potassium or sodium laurate, myristate, palmitate or stearate; and mixtures thereof.

Amphoteric or zwitterionic surfactants which may be mentioned, for example, include betaines and

5 betaine derivatives; sultaines and sultaine derivatives; imidazolinium derivatives such as disodium cocoamphodiacetate; and mixtures thereof.

According to one particular embodiment of the invention, the surfactant is a nonionic surfactant, a
10 mixture of nonionic surfactants or a mixture of nonionic and anionic surfactants.

The composition may also contain one or more other ingredients, in particular lipophilic ingredients, conventionally used in cleansing or make-up-removing compositions. These ingredients are, in particular, oils, fragrances, preserving agents, antioxidants, sequestering agents, fillers, colorants, cosmetic or dermatological active agents, or mixtures thereof. These adjuvants are used in the usual
15 proportions for cleansing and/or care compositions, and, for example, from 0.01% to 10% relative to the total weight of the composition. These adjuvants must be of a nature and must be used in an amount such that they do not disrupt the properties desired for the
20 composition of the invention.

Fillers which may be mentioned, for example, include talc, modified or unmodified starch, and in

particular starches esterified with octenylsuccinic anhydride and more particularly "aluminium starch octenylsuccinate" such as the product sold by the company National Starch under the name Dry-Flo.

5 As active agents which may be used in the invention, mention may be made of antibacterial agents such as octopirox and triclosan, keratolytic agents such as salicylic acid, essential oils and vitamins, and in particular niacinamide (vitamin PP) and

10 panthenol (vitamin B3).

The composition of the invention is particularly suitable for cleansing and/or removing make-up from the skin and/or mucous membranes and more particularly for cleansing and/or removing make-up from

15 the skin.

A subject of the invention is also the cosmetic use of the composition as defined above, for cleansing and/or removing make-up from the skin and/or mucous membranes.

20 The composition of the invention is generally in the form of a thick gel. This gel may be used in 2 ways:

1) either the face is moistened slightly and the gel is then applied to the face: the exothermic reaction

25 then takes place. The gel is then worked into a lather by adding water, after which it is rinsed off;

2) or the gel is applied to dry skin by massaging; the exothermic reaction then starts by virtue of the hydration water of the skin, after which a small amount of water is added to increase the exothermic reaction,

5 the gel is worked into a lather and is then rinsed off.

Thus, a further subject of the invention is a cosmetic process for removing make-up from and/or for cleansing the skin, which consists in slightly moistening the skin, and in particular the facial skin,

10 in applying the composition as defined above to the skin, in working the composition into a lather by adding water, and finally in rinsing the skin.

A subject of the invention is also a cosmetic process for removing make-up from and/or for cleansing

15 the skin, which consists in applying the composition as defined above to dry skin by massaging, in adding a small amount of water, in working the composition into a lather and then in rinsing the skin.

The examples below are given by way of non-

20 limiting illustration in order to reveal the characteristics of the invention more clearly. The amounts therein are given as % by weight.

Example 1: Heating cleansing composition

- Butylene glycol	18	%
- PEG-8	18	%
- Glycerol	14	%
- Polyglyceryl-3 hydroxylauryl ether	6	%
- PEG-120 methyl glucose dioleate	1	%
- Zeolite (activated potassium aluminosilicate: Advera 402 N)	40	%
- Calcium chloride	3	%

Procedure: The calcium chloride is dissolved in the

5 PEG-8 and the butylene glycol. The molten surfactants are then added to the glycerol at 65°C. These 2 phases are homogenized, the mixture is cooled to room temperature and the zeolite is then added while homogenizing.

10 The product obtained is a stable white gel, which is easy to apply and to remove, and which has a soft feel and good cleansing power.

Comparative Example 1: Example 1 was repeated but

15 without calcium chloride. Instability of the composition was observed, with decantation of the zeolite to the bottom and decantation of the glycols to the top.

15
Example 2: Heating cleansing composition

- Butylene glycol	25	%
- PEG-8	25	%
- Glycerol	12	%
- PEG-5 cocamide	6	%
- PEG-120 methyl glucose dioleate	2	%
- Zeolite (activated potassium aluminosilicate: Advera 402 N)	20	%
- Calcium chloride	10	%

The procedure is identical to that of

5. Example 1.

The product obtained is a stable white gel, which is easy to apply and to remove, and which has a soft feel and good cleansing power.

CLAIMS

1. Exothermic cosmetic composition comprising, in a physiologically acceptable anhydrous medium, at least one zeolite, at least one surfactant 5 and at least one alkaline-earth metal halide.
2. Composition according to Claim 1, characterized in that the alkaline-earth metal halide is chosen from calcium, magnesium and zinc iodides, chlorides and bromides, and mixtures thereof.
- 10 3. Composition according to Claim 1 or 2, characterized in that the alkaline-earth metal halide is calcium chloride.
4. Composition according to any one of the preceding claims, characterized in that the amount of 15 alkaline-earth metal halide(s) ranges from 1% to 15% by weight relative to the total weight of the composition.
5. Composition according to any one of the preceding claims, characterized in that the zeolite is an activated zeolite chosen from zeolites A, zeolites X 20 and zeolites MAP.
6. Composition according to any one of the preceding claims, characterized in that the zeolite is in an amount which is sufficient for the composition to be exothermic.
- 25 7. Composition according to any one of the preceding claims, characterized in that the amount of

zeolite(s) ranges from 5% to 95% by weight relative to the total weight of the composition.

8. Composition according to any one of the preceding claims, characterized in that it also 5 contains at least one polyol.

9. Composition according to the preceding claim, characterized in that the polyol is chosen from glycerol, diglycerol, propylene glycol, dipropylene glycol, butylene glycol, hexylene glycol, polyethylene 10 glycol and polyethylene glycols with a molecular weight of less than 600, and sugars, and mixtures thereof.

10. Composition according to any one of the preceding claims, characterized in that the amount of polyol(s) ranges from 20% to 90% by weight relative to 15 the total weight of the composition.

11. Composition according to any one of the preceding claims, characterized in that the surfactant is a cleansing and/or foaming surfactant chosen from nonionic surfactants, anionic surfactants and 20 amphoteric surfactants, and mixtures thereof.

12. Composition according to the preceding claim, characterized in that the nonionic surfactant is chosen from condensates of alkylene oxides and of alkylphenols, alkylpolyglucosides, ethers of fatty 25 alcohols and of polyols, nonionic derivatives of glucose and of methylglucose, comprising polyethylene

oxide or polypropylene oxide groups, and mixtures thereof.

13. Composition according to Claim 11, characterized in that the anionic surfactant is chosen 5 from polyalkylene glycol ethers of fatty alcohols, taurates, acyl lactylates, alkyl sulphates, glycetyl alkyl sulphates, polyoxyethylenated alkyl sulphates, alkyl ether sulphates, alkyl ether carboxylates, monoalkyl or dialkyl phosphates, ethoxylated alkyl 10 phosphates, N-acylsarcosinates, N-acylglutamates, acylisethionates, succinamates and soaps, and mixtures thereof.

14. Composition according to any one of the preceding claims, characterized in that the amount of 15 surfactant(s) ranges from 0.5% to 20% by weight relative to the total weight of the composition.

15. Composition according to any one of the preceding claims, characterized in that it is in the form of a gel, a cream, a paste or a powder.

20 16. Cosmetic use of the composition according to one of the preceding claims, for cleansing and/or removing make-up from the skin and/or mucous membranes.

17. Cosmetic process for removing make-up 25 from and/or for cleansing the skin, which consists in slightly moistening the skin, in applying the composition according to any one of Claims 1 to 15 to

the skin, in working the composition into a lather by adding water, and in rinsing the skin.

18. Cosmetic process for removing make-up from and/or for cleansing the skin, which consists in applying the composition according to any one of Claims 1 to 15 to dry skin by massaging, in adding a small amount of water, in working the composition into a lather and then in rinsing the skin.